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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/692,828 | 10/24/2003 | Daniel James Dickinson | TE9A | 9259 |

7590 10/04/2005

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| EXAMINER |
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RODRIGUEZ, RUTH C

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| ART UNIT | PAPER NUMBER |
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3677

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/692,828

Applicant(s)

DICKINSON ET AL.

Examiner

Ruth C. Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-14,16-18,20-26,28-34,36-48,50-62 and 64-76 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10,14,15,18,19,22,25-27,31-37,41-45,47-51,55-59,61-65 and 69-76 is/are rejected.
- 7) ☐ Claim(s) 11-13,16,17,20,21,23,24,28-30,38-40,46,52-54,60 and 66-68 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/12/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 12 July 2005 has been considered for this Office Action.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the hindrance portion comprising one of a side rib, an upward solid bent extension parallel to the peak and the free end and a knurled region must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 11-13, 16, 17, 20, 21, 23, 24, 28-30, 38-40, 46, 52-54, 60, 66-68 and 74 are objected to because of the following informalities:

- Claims 11, 38, 52 and 66 recite "the ripple has only a back side, substantially lacking a front side". This limitation is objected because it contradicts the limitation of claims 1 and 33 that recites "the depression having a deepest part, a front side, a back side and a width" since the ripple is the depression.
- Claims 12, 13, 16, 17, 20, 21, 23, 24, 28, 29, 39, 40, 46, 53, 54, 60, 67, 68 and 74 is being objected because it depends upon an objected claim.
- Claim 30, line 3, "form" should be replaced with --from--.

Correction is required.

The indicated allowability of claims 1-10, 14, 15, 18, 19, 22, 25-27, 31-37, 41-45, 47-51, 55-59, 61-65 and 69-73 is withdrawn in view of the reference(s) to Smith (US

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6,353,981), Vassiliou (US 6,279,207) and Wisniewski (US 6,141,837). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 4-7, 9, 10, 14, 26, 30, 31, 33, 36, 37, 41, 45, 47, 50, 51, 55, 59, 61, 64, 65, 69, 73, 75 and 76 are rejected under 35 U.S.C. 102(e) as being anticipated by Smith (US 6,353,981 B1).

A spring fastener (10) comprises a first side (12) and a second side (14) opposite the first side (Figs. 1-25). The first side is connected to the second side thereby forming a U-shaped structure having a cavity between the first side and the second side (Figs. 1-25). A bottom portion (34) connects the first side and the second side and a top portion (38). The first side comprises first barbs (40) having first front ends and a first engagement spring (16). The first engagement spring connected to the first side in the vicinity of the bottom portion (Figs. 1-25). The second side comprises second barbs (40) having second front ends and a second engagement spring (18). The second

engagement spring connected to the second side in the vicinity of the bottom portion (Figs. 1-25). Each of the first and second engagement springs has a free end (16a,18a) in the vicinity of the top portion and also comprises a peak (22,26) and an engagement region with a hindrance portion (20,24,28,30) between the free end and the peak (Figs. 1-25). The hindrance portion comprises one structure selected from one to three ripples and each ripple has the form of a depression. The depression having a deepest part, a front side, a back side and a width (Figs. 1-25). The hindrance portion having a surface wherein the depth of each ripple is the distance between the surface of the hindrance and the deepest part of the respective ripple (Figs. 1-25). The ripple provides increased removal force when the fastener is pulled by an extension of a first part engaged to the first and second barbs after the fastener has been inserted into a slot of a second part (C. 4, L. 55-67, C. 5, L. 1-8 and Figs. 1-25). The slot has a slot width and edges on which edges the engagement region is engaged (C. 4, L. 43-54 and Fig. 6). The increased removal force being due to the hindrance portion and wherein the fastener can be extracted when pulled by the extension without damage to said fastener (C. 4, L. 55-67 and C. 5, L. 1-8).

Smith also discloses that:

- The hindrance portion comprises not more than two ripples (20,24,28).
- The hindrance portion comprises only one ripple (20).
- The ripple width is at least twice the size of the depth of the ripple (Figs. 1-25).

- The back side has a slope in the range of 15 to 30 degrees with regard to the general plane of the hindrance portion (Figs. 1-25).

- The front side has a higher slope than the back side (Figs. 1-25).

- The barbs are selected from a group consisting essentially of: first barbs being outer barbs and second barbs being inner barbs where the first barbs are outside outer barbs and the second barbs are inside outer barbs and first barbs being inner barbs and the second barbs being inner barbs (Figs. 1-25).

- The engagement region is at least partially wider than the rest of the engagement spring (wider than the free end of the engagement spring as shown in Figs. 1-25).

- Further comprising additional lower barbs (42) pointing inwardly and originating from the vicinity of the bottom portions of the first and side and the second side of the fastener (Figs. 4, 5 and 18-19a).

- Each side of the spring fastener has only one upper barb and one lower barb of one side facing the lower barb of the other side and vice versa (Figs. 4, 5 and 18-19a).

Regarding claim 33, the same rejection of claim 1 applies to claim 33 that claims an assembly having a first part that comprises an extension and a spring fastener in accordance to claim 1 where the fastener can be extracted when pulled by the rib without damage to the fastener (. 4, L. 55-67 and C. 5, L. 1-8).

For claim 47, the same rejection of claim 1 applies to claim 47 that claims an assembly having a second part with a slot and a spring fastener in accordance to claim

1 where the fastener can be inserted into the slot and extracted when pulled by an extension without damage to the fastener (C. 4, L. 55-67 and C. 5, L. 1-8).

Regarding claim 61, the same rejection of claim 1 applies to claim 61 that claims a vehicle comprising an assembly having a first part with an extension and a second part with a slot and a spring fastener in accordance to claim 1 where the fastener can be inserted into the slot and extracted when pulled by the rib without damage to the fastener (C. 4, L. 55-67 and C. 5, L. 1-8).

For claim 75, the same rejection of claim 1 applies to claim 75 that claims that the hindrance portion comprises one structure selected from ripple (20,24,28,30), side rib, upward solid bent extension parallel to the peak and the free end (20,24,28,30) and knurled region (20,24,28,30).

For claim 76, the same rejection of claim 61 applies to claim 75 that claims that the hindrance portion comprises one structure selected from ripple (20,24,28,30), side rib, upward solid bent extension parallel to the peak and the free end (20,24,28,30) and knurled region (20,24,28,30).

6. Claims 1, 4, 5, 9, 10, 14, 18, 22, 33, 36, 37, 41-44, 47, 50, 51, 55-58, 61, 64, 65, 69-72, 75 and 76 are rejected under 35 U.S.C. 102(e) as being anticipated by Vassiliou (US 6,353,981 B1).

A spring fastener (10) comprises a first side (18) and a second side (20) opposite the first side (Figs. 1 and 8). The first side is connected to the second side thereby forming a U-shaped structure having a cavity (16) between the first side and the second side (Figs. 1 and 8). A bottom portion connects the first side and the second side and a

top portion (26) (Figs. 1 and 8). The first side comprises first barbs (12) having first front ends and a first engagement spring (29). The first engagement spring connected to the first side in the vicinity of the bottom portion (Figs. 1 and 8). The second side comprises second barbs (14) having second front ends and a second engagement spring (31). The second engagement spring connected to the second side in the vicinity of the bottom portion (Figs. 1 and 8). Each of the first and second engagement springs has a free end (Figs. 1 and 8) in the vicinity of the top portion and also comprises a peak and an engagement region with a hindrance portion (29i,31i) between the free end and the peak (Figs. 1-25). The hindrance portion comprises one structure selected from one to three ripples (29i,31i) and each ripple has the form of a depression. The depression having a deepest part, a front side, a back side and a width (Figs. 1 and 8). The hindrance portion having a surface wherein the depth of each ripple is the distance between the surface of the hindrance and the deepest part of the respective ripple (Figs. 1 and 8). The ripple provides increased removal force when the fastener is pulled by an extension of a first part engaged to the first and second barbs after the fastener has been inserted into a slot of a second part (C. 4, L. 1-12 and Fig. 8). The slot has a slot width and edges on which edges the engagement region is engaged (Figs. 7 and 8). The increased removal force being due to the hindrance portion and wherein the fastener can be extracted when pulled by the extension without damage to said fastener (C. 4, L. 1-12).

Vassiliou also discloses that:

- The hindrance portion comprises not more than two ripples (29i,31i).

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- The hindrance portion comprises only one ripple (29i,31i).
- The back side has a slope in the range of 15 to 30 degrees with regard to the general plane of the hindrance portion (Figs. 1 and 8).
- The front side has a higher slope than the back side (Figs. 1 and 8).
- The barbs are selected from a group consisting essentially of: first barbs being outer barbs and second barbs being inner barbs where the first barbs are outside outer barbs and the second barbs are inside outer barbs and first barbs being inner barbs and the second barbs being inner barbs (Figs. 1-8).
- At least one barb is cut from its respective side, flexible and bent at its respective front end (Figs. 1-8).
- The material from which the spring fastener was made from has a thickness and the front points of the outside barbs are at a distance from the second side smaller than the thickness of the material (Figs. 1-8).

Regarding claim 33, the same rejection of claim 1 applies to claim 33 that claims an assembly having a first part that comprises an extension and a spring fastener in accordance to claim 1 where the fastener can be extracted when pulled by the rib without damage to the fastener (. 4, L. 55-67 and C. 5, L. 1-8).

For claim 47, the same rejection of claim 1 applies to claim 47 that claims an assembly having a second part with a slot and a spring fastener in accordance to claim 1 where the fastener can be inserted into the slot and extracted when pulled by an extension without damage to the fastener (C. 4, L. 55-67 and C. 5, L. 1-8).

Regarding claim 61, the same rejection of claim 1 applies to claim 61 that claims a vehicle comprising an assembly having a first part with an extension and a second part with a slot and a spring fastener in accordance to claim 1 where the fastener can be inserted into the slot and extracted when pulled by the rib without damage to the fastener (C. 4, L. 55-67 and C. 5, L. 1-8).

For claim 74, the same rejection of claim 1 applies to claim 75 that claims that the hindrance portion comprises one structure selected from ripple (20,24,28,30), side rib, upward solid bent extension parallel to the peak and the free end and knurled region.

For claim 75, the same rejection of claim 61 applies to claim 75 that claims that the hindrance portion comprises one structure selected from ripple (20,24,28,30), side rib, upward solid bent extension parallel to the peak and the free end and knurled region.

7. Claims 75 and 76 are rejected under 35 U.S.C. 102(e) as being anticipated by Wisniewski (US 6,141,837 B1).

A spring fastener (22) comprises a first side (44) and a second side (46) opposite the first side (Figs. 1-5). The first side is connected to the second side thereby forming a U-shaped structure having a cavity (60) between the first side and the second side (Figs. 1-5). A bottom portion (66) connects the first side and the second side and a top portion. The first side comprises first barbs (62) having first front ends and a first engagement spring (70). The first engagement spring connected to the first side in the vicinity of the bottom portion (Figs. 1-5). The second side comprises second barbs (64)

having second front ends and a second engagement spring (72). The second engagement spring connected to the second side in the vicinity of the bottom portion (Figs. 1-5). Each of the first and second engagement springs has a free end (76,80) in the vicinity of the top portion and also comprises a peak (74,78) and an engagement region with a hindrance portion (82,84) between the free end and the peak (Figs. 1-5). The hindrance portion comprises one structure selected from ripple, side rib (82,84), upward solid bent extension parallel to the peak and the free end and knurled region, each having a depth and a combination thereof (Figs. 1-5). The hindrance provides increased removal force when the fastener is pulled by an extension of a first part engaged to the first and second barbs after the fastener has been inserted into a slot of a second part (C. 3, L. 46-61 and Fig. 1). The slot has a slot width and edges on which edges the engagement region is engaged (Fig. 1). The increased removal force being due to the hindrance portion and wherein the fastener can be extracted when pulled by the extension without damage to said fastener (C. 3, L. 46-61).

For claim 76, the same rejection of claim 75 applies to claim 76 that claims a vehicle comprising an assembly having a first part with an extension and a second part with a slot and a spring fastener in accordance to claim 75 (Abstract).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2, 8, 25, 34, 48 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith.

Smith discloses a spring fastener with all the limitations listed above in paragraph 5 for the rejection of claims 1, 33, 47 and 61. Smith fails to disclose that the depth of the ripple is smaller than 0.2 mm. However, it would have been obvious matter of design choice to provide the bent teeth with a depth smaller than 0.2 mm, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237, (CCPA 1955).

Smith discloses a spring fastener with all the limitations listed above in paragraph 5 for the rejection of claim 1. Smith fails to disclose that the ripple width is in the range of 0.1 to 0.5 mm and the ripple depth is on the range of 0.01 to 0.1 mm. However, it would have been obvious matter of design choice to provide the ripple width is in the range of 0.1 to 0.5 mm and the ripple depth is on the range of 0.01 to 0.1 mm, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237, (CCPA 1955).

Smith discloses a spring fastener with all the limitations listed above in paragraph 5 for the rejection of claim 1. Smith fails to disclose that the fastener has a width in the vicinity of the top portion of the fastener which is at least 60 % as wide as the slot width.

However, it would have been obvious matter of design choice to provide the fastener with a width in the vicinity of the top portion of the fastener that is at least 60 % as wide as the slot width, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237, (CCPA 1955).

10. Claims 18, 22, 42, 43, 56-58 and 70-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Vassiliou.

Smith discloses a spring fastener with all the limitations listed above in paragraph 5 for the rejection of claims 1, 33, 41, 47, 55, 61 and 69 where at least one barb is cut from its respective side and flexible. Smith fails to disclose that at least one barb has a bent at its respective front end. However, Vassiliou teaches a fastener having all the limitations disclosed above in paragraph 6. Vassiliou also teaches that at least one barb is cut from its respective side, flexible and bent at its respective front end. The bent provides additional holding power between the spring and the objection being held within the spring (C. 3, L. 29-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the bent at its respective front end of the barb as taught by Vassiliou in the fastener disclosed by Smith. Doing so, increases the holding power between the spring and the object being held within the spring.

Vassiliou also teaches that the material from which the spring fastener was made from has a thickness and the front points of the outside barbs are at a distance from the second side smaller than the thickness of the material (Figs. 1-8).

11. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Smith (US 5,987,714).

Smith discloses a spring fastener with all the limitations listed above in paragraph 5 for the rejection of claim 1. Smith fails to disclose that the fastener further comprises a relief opening in the vicinity of the bottom of the spring fastener. However, Smith '714 teaches that a spring fastener (10) having a U-shaped fastener (14) having a first side (28) connected to a second side (30) by a bottom surface (24). The bottom surface comprises a relief opening (26) in the vicinity of the bottom of the spring fastener. The relief opening is used to modify the springiness between the first side and the second side (C. 3, L. 25-29). Therefore, it would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to have a relief opening in the vicinity of the bottom of the spring fastener as taught by Smith '714 in the spring fastener disclosed by Smith. Doing so, will provide a way to modify the springiness between the first side and the second side.

Allowable Subject Matter

12. Claims 11, 38, 52 and 66 would be allowable if rewritten or amended to overcome the objections set forth in this Office action.

13. Claims 12, 13, 16, 17, 20, 21, 23, 24, 28, 29, 39, 40, 46, 53, 54, 60, 67, 68 and 74 would be allowable if rewritten to overcome objection set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

14. Applicant's arguments with respect to claims 1-10, 14, 15, 18, 19, 22, 25-27, 31-37, 41-45, 47-51, 55-59, 61-65 and 69-73 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Smith et al. (US 6,381,811 B2), Smith et al. (US 6,527,471 B2), Smith et al. (US 6,648,542 B2), Dickenson et al. (US 6,718,599 B2), Smith et al. (US 6,846,125 B2) and Dickenson et al. (US 6,868,588 B2) are cited to show state of the art with respect to spring fasteners having some of the features being claimed by the current application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruth C Rodriguez whose telephone number is (571) 272-7070. The examiner can normally be reached on M-F 07:15 - 15:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J. Swann can be reached on (571) 272-7075.

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Submissions of your responses by facsimile transmission are encouraged. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

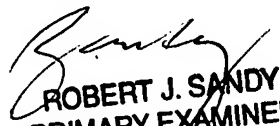
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-6640.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ruth C. Rodriguez
Patent Examiner
Art Unit 3677

RCR
rcr

September 30, 2005


ROBERT J. SANDY
PRIMARY EXAMINER